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10/022,468	12/14/2001	Ralph M. Kling	42390P12912	1717

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BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP  
Seventh Floor  
12400 Wilshire Boulevard  
Los Angeles, CA 90025-1026

EXAMINER

BELL, PAUL A

ART UNIT	PAPER NUMBER
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2675

DATE MAILED: 09/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/022,468

**Applicant(s)**

KLING, RALPH M.

**Examiner**

PAUL A BELL

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 09 August 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 4-6, 10-12 and 18-21 , are rejected under 35 U.S.C. 102(e) as being anticipated by Aronovitz (US 2002/0186176 A1).

With regards to claim 1 Aronovitz teaches an apparatus (section [0001]) comprising: a base unit to house a computing system and to house an internal micro projection device (figure 1, items 100, 120 and 150) wherein said internal micro projection device is housed substantially within the base unit (figure 1, item 150); wherein said computing subsystem is to process data and execute program instructions (figure 1, items 140, 110, and 120); wherein said micro projection device is integrated into base electronics inside the base unit (sections [0008] and [0016]) and is to project an image for said computing subsystem onto a viewing surface that is not physically connected to said housing (figure 1 does not directly illustrate the viewing surface however it is inherent that you need one for it to work); wherein the area of said projected image is capable of being substantially larger than the area occupied by the base unit ( it is inherent that a projected image of Aronovitz is also capable of being substantially larger than the area

occupied by the base unit for example a function of how far the projected optical beam is from the viewing surface).

With regard to claim 4 Aronovitz teaches the apparatus of claim 1 further comprising a first wireless input device coupled to said computing subsystem via a first wireless communication link, said first wireless input device to receive user input and to send said user input to said computing subsystem via said first wireless communication link (See Aronovitz figure 1, items 180 and 170 and section [0039]).

With regard to claim 5 Aronovitz teaches the apparatus of claim 4 wherein said first wireless input device is a keyboard (See Aronovitz figure 1, item 180 and section [0039]).

With regard to claim 6 Aronovitz teaches the apparatus of claim 5 further comprising a second wireless input device coupled to said computing subsystem via a second wireless communication link, wherein said wireless input device is a mouse (See Aronovitz figure 1, item 170 and section [0039]).

With regard to claim 10 Aronovitz teaches the apparatus of claim 6 further comprising a wireless transceiver coupled to said computing subsystem, said wireless transceiver to form said first wireless communication link between said computing subsystem and said first wireless input devices, and to form said second wireless communication link between said computing subsystem and said second wireless input device (See Aronovitz figure 1, items 180 and 170 and section [0039]).

With regard to claim 11 the combination of Aronovitz teaches the apparatus of claim 10 wherein said apparatus comprises a mobile computer system (See Aronovitz figure 1, item 190 since it has its own power supply it is inherently capable of being mobile).

With regard to claim 12 Aronovitz teaches a mobile computer comprising: a memory to store instructions (figure 1, item 190), a processor coupled to said memory (figure 1, item 120), said processor to execute said instructions (figure 2); a graphics controller coupled to said processor (figure 1, item 140), said graphics controller to receive commands from said processor and to generate display data (figure 2); A wireless mouse coupled to said processor (figure 1, item 170), said wireless mouse to receive user input, and to send said user input to said processor via a first wireless communication link (section [0039]); a light modulator coupled to said graphics controller to receive said display data and to modulate light based on said display data (figure 1, item 150), and an optic integrated internally into the base electronics of the mobile computer the optic being coupled to said light modulator (figure 1, item 150 has light optically projecting from it so it is inherent it has some type of optics), said optic to receive modulated light from said light modulator (figure 1, item 150), said optic to project an image on a surface that is separate from the mobile computer; wherein the area of said image is capable of being substantially larger than the area of the mobile computer (figure 1 does not directly illustrate the projected viewing surface however it is inherent that you need one for it to work also it is inherent that a projected image of Aronovitz is also capable of being substantially larger than the area occupied by the base unit for example a function of how far the projected optical beam is from the projected viewing surface).

With regard to claim 18 Aronovitz teaches a method comprising: executing program instructions on a mobile computer that does not include an attached display screen (figure 1 does not show a attached display screen); generating display data based on results of said instructions (SEE Aronovitz figure 1, item 120 "Microprocessor" and figure 2 ); propagating said

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display data to a micro projection system housed substantially inside the mobile computer, wherein said micro projection system is integrated within said base electronic within said mobile computer (SEE Aronovitz figure 1, items 140, 150, and 160); modulating light beams in response to said display data (figure 1, item 150); and projecting modulated light beams through optics (See Aronovitz figure 1, item 150 shows an optically expanding light beam).

With regard to claim 19 Aronovitz teaches the method of claim 18 further comprising displaying an image resulting from said modulated light beams onto a portable, passive display screen that is not physically connected to said mobile computer (SEE Aronovitz figure 1, does not directly illustrate the viewing surface however it is inherent that you need one for it to work).

With regard to claim 20 Aronovitz teaches the method of claim 19 further comprising storing said display data in a frame buffer within said micro projection system (SEE Aronovitz figure 1, item 130 "memory" and figure 2, item 205).

With regard to claim 21 Aronovitz teaches the method of claim 20 further receiving user input from a wireless input device via a wireless communications link (SEE Aronovitz section [0039]).

#### Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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4. Claims 2, 3, 8, 9, and 13-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aronovitz (US 2002/0186176 A1) as applied to claims 1, 4-6, 10-12 and 18-21, above, and further in view of Liao et al. (6,681,005).

With regard to claim 2 Aronovitz does not illustrate the detail; "said micro projection further comprises a liquid crystal on silicon (LCOS) device", he only gives general examples such as liquid crystals or deformable mirrors and further states in section [0032] the clear suggestion "any type of light valve that is operable to selectively block and pass light may be utilized by the invention". Therefore the selection of a specific type of LC would depend on what is well-known to use in this field and therefore made obvious.

Liao et al. teaches a micro projection device including a liquid crystal on silicon (LCOS) device (column 2, lines 16-20).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use LCOS as taught by Liao et al. as the LC material of Aronovitz because Liao et al. gives motivation for doing so in column 1, lines 37-40 and column 2, lines 16-27.

With regard to claim 3 the combination of Aronovitz/Liao et al. teaches the apparatus of claim 1 wherein said viewing surface comprises a portable, passive screen, which is physically separate from the base unit, the passive screen having a white area to display said image, and wherein said image may be projected through an opening in the surface of said base unit(SEE Aronovitz figure 1 where it does not directly illustrate the viewing surface to project onto however it is inherent that you need one for it to work and further it is obvious that a screen would be the standard white so as to work properly and not distort color).

With regard to claim 8 the combination of Aronovitz/Liao et al. teaches the apparatus of claim 2 wherein said (LCOS) device is to manipulate light in response to graphical data (See Aronovitz figure 1 items 150, 160 and 140).

With regard to claim 9 the combination of Aronovitz/Liao et al. teaches the apparatus of claim 8 further comprising optics to receive manipulated light from said LCOS device, said optics to form said manipulated light into said image (See Aronovitz figure 1, item 150 shows an optically expanding light beam).

With regard to claims 13-17 the combination of Aronovitz/Liao was already shown above to meet all these limitations.

5. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Aronovitz (US 2002/0186176 A1) as applied to claim 1 above, and further in view of Daniel (6,575,647).

With regard to claim 7 Aronovitz does not teach the apparatus of claim 6 wherein said keyboard is a full size, foldable keyboard.

Daniel teaches a remote keyboard that is a full size, foldable keyboard (abstract, figures 3A and 3B).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the Daniel keyboard instead because Daniel gives motivation in column 1, lines 35-45.

#### Response to Arguments

6. Applicant's arguments with respect to claims 1, 12, and 18 have been considered but are moot in view of the new ground(s) of rejection.



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Conclusion

7. The prior art made of record and not relied upon is considered very pertinent to applicant's disclosure. Miyashita (US 2002/0122158) also teaches a projector which on the surface appears to be much like applicants. Please also review this one before making any response.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul Bell whose telephone number is (703) 306-3019.

If attempts to reach the examiner by telephone are unsuccessful the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377 can help with any inquiry of a general nature or relating to the status of this application.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks  
Washington, D.C. 20231

Or Faxed to: (703) 872-9306

Or Hand-delivered to: Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor  
(Receptionist).

*Paul Bell*

Paul Bell

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September 18, 2004

*Chanh Nguyen*  
CHANH NGUYEN  
PRIMARY EXAMINER